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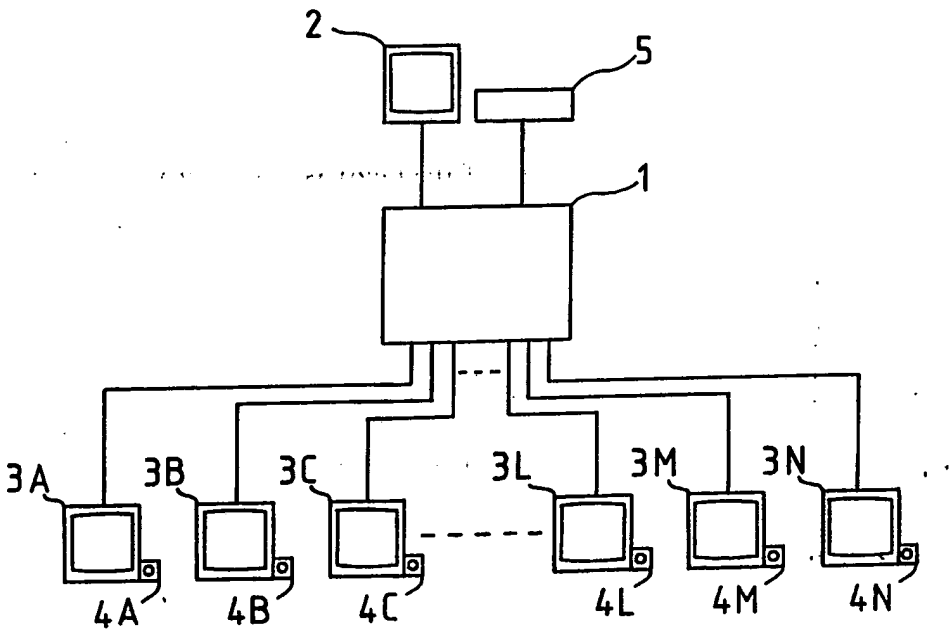

(57) Abstract

In a display system for a data assisted bingo game there is included a central computer (1), a plurality (N) of game monitors (3) with reaction buttons (4), and a master monitor (2) as well as a keyboard (5) for the game master. The computer (1) is adapted to particularly indicate in a suitable manner the generated random numbers in square nets with bingo numbers which are displayed on the game monitors (3), so that the participants easily may follow the game. Furthermore, the computer (1) displays on every game monitor the present account balance of the game participant in accordance with the start fee paid, the number of games and square nets used and possible prizes, and the computer also displays the last retrieved random number.

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Display system for data assisted bingo game

The present invention relates to a display system for a data assisted bingo game, where each individual game participant has in front of himself a computer controlled pictorial presentation of several bingo square nets containing bingo numbers or symbols.

In the ordinarily known form of bingo game the game participant buys a number of "bingo vouchers, pieces or boards" with nets of squares containing bingo numbers. As random numbers are brought up by a game master and called out, the game participant himself must cross out or cover those numbers in the square nets which possibly agree with the number just called out, while the master notes or in some other manner records every number called out. When a bingo result is obtained, i.e. when a participant has crossed out a full row of numbers in the square net, the game managers must make a check.

Many people, and particulary elderly persons, will often have a problem in following the game properly, especially if they have a rather high number of vouchers/square nets, and thereby they have a risk of missing bingo results achieved and thus losing prizes which rightfully should be theirs.

Special bingo boards have been constructed comprising shiftable lids to cover the individual bingo numbers in the square net. A board of this type does only remedy the problems mentioned above to a small degree, since the operation of shifting the lid to a position over the bingo number takes about the same time as crossing out the number with a pen in an ordinary square net.

Furthermore, the necessary check of correct bingo result by the management has just the same character as before, since every number in the complete row must be read and checked against the numbers called out. The game would gain a clear advantage with a faster number check after the game.

In addition, a lot of time is spent buying bingo vouchers between the game rounds. A simplification both of the charge payment and the checking of numbers may imply diminishing demands for personnel in the game management, and that a greater part of the time may be used for the game itself.

The main object of the present invention is to remedy the difficult situation concerning comprehending the game, by providing a manner of presenting a bingo game which will aid the game participants in comprehending and following the progress of the game, and strongly increase the probability of a game participant achieving his or hers possible rightful prize, and possibly also ensuring this completely.

It is also an object to make the game, charge payment, prize disbursement and number check more efficient.

These and other objects which will appear from the more detailed description of the invention, are achieved by constructing a display system of the type that appears from the subsequent patent claims.

A more detailed description of the invention will be made referring to a preferred embodiment shown in the drawings, where fig. 1 illustrates the apparatus set-up schematically, and fig. 2 shows an example of a game monitor presentation in accordance with a preferred embodiment of the invention.

Fig. 1 shows a central computer 1 together with attached game monitors 3A, 3B, ..., 3N. To each one of the game monitors is assigned a reaction button 4A, 4B ..., 4N to be operated by the individual game participant by pushing. The primary function of the reaction button is signalling in to the computer 1 when a game participant discovers that a bingo result (for instance one complete row) has been achieved in his game monitor, and pushes the button. Other types of signalling from the button may be envisaged, for instance signalling certain simple data prior to the start of a game, given clearance from the game master, and having the form of a certain number of pushes of the button.

Furthermore two devices are attached to the computer 1 in order to be used by the game master, namely a master monitor 2 and a master keyboard 5. By means of the master monitor and keyboard the game master is able to keep track of the progress of the game and retrieve desired information relating to the account balance of the participants. The central computer 1 is adapted and programmed to keep complete track of all movements in the game as well as the balance of each participant, and to

generate the random numbers which constitute the essence of a bingo game. The computer also controls the monitor presentations and stores all necessary game information. the computer 1 therefore comprises several subprocessors: the random numbers are created in a random generator. An interface unit with a number N of parallell end-stages for the game monitors 3A - 3N is necessary to provide correct video signals for each game monitor, and a special interface also exists for driving the master monitor 2. A picture control unit provides signals for the interfaces, and the picture control unit is governed by a central processor comprising arithmetic/logic units and necessary ROM and RAM type memory stores. The random generator, the master keyboard 5 and all of the reaction buttons 4A, ..., 4N are connected to this central processor.

An examplified description of the progress of a game situation shall be used in the further elucidation of the present invention, alternatingly referring to both fig. 1 and fig. 2.

A number of game participants, at most equal to N, are seated by some of or all of the game monitors 3. The game participants pay the start charge for one or more game rounds to the game master, who enters start charge data for each particular participant (or game monitor) in the computer 1 by means of the master keyboard 5. The computer instantly presents the balance in a special field 7 (fig. 2) of each game monitor 3. The game master then may ask orally, or the computer may display a written request to each game participant on his assigned game monitor, or possibly both at the same time, for a declaration of the desired number of bingo boards, i.e. bingo square nets 6 in the first game, by pushing the reaction button 4 the desired number of times. The computer 1 immediately checks that the paid start charge is not exceeded, if the charge is insufficient for the desired number of bingo boards 6, and presents on the game monitor 3 the number of boards 6 which the game participant is entitled to according to desire and start charge, within the possible maximum, which is four boards in the shown embodiment example of fig. 2.

As shown in fig. 2, the player's desire has been to play with three boards 6, wherefore "board d" is empty, see reference number 9. In reality it is also possible to place a higher number of boards than four on one game monitor 3.

Simultaneously with the presentation of the boards 6, the balance of the game participant in field 7 is reduced in correspondance with the price of the chosen number of boards. The game master may now, by using the keyboard 5, according to wish retrieve information about the account balance of each individual game monitor 3 on the master monitor 2.

Each of the bingo boards 6 now being displayed continously and preferably in clear colours, if the game monitors 3 have colour capacity, contain bingo numbers 10 of ordinary type, or in certain embodiments of the invention special symbols/signs. When using a simpler version of the computer 1, the same number configuration will always be displayed in that bingo board 6 which takes up a certain position in the monitor picture of the individual game monitor 3, but when a more advanced version of the computer 1 is used, new bingo number configurations may very well be generated when starting a game and be maintained only during this game, generating new configurations for every new game, and preferably functions like these may be controlled by the game master using the keyboard 5.

The number of squares in a square net or board 6 on the game monitors 3 is not necessarily 5 x 5 = 25, as shown in the example of fig.2, but can be adapted to the prevailing circumstances, for instance the physical size of the monitors, readability and the like. It is also possible to let the game master make variations from one game to another concerning the size of the boards, by communicating with the computer 1 via the keyboard 5.

If it is desired, the prize of the game round in question may be presented on every game monitor 3, possibly in a particular field (not shown) in the monitor picture.

Then the game itself may begin. The game master now retrieves the first random integer from the random generator of the computer 1. Primarily the integer is presented instantaneously in a distinctive field 8 on each game monitor 3 as

well as the master monitor 2, but at the same time an easily visible indication 11 is presented in those squares which contain the bingo number equal to the random integer, or containing the special symbol corresponding to the integer. In the example shown in fig. 2 the indication has the shape of a ring 11 around the bingo number, but the indication may just as well be some other clearly visible symbol, or quite simply a distinct colour change in the square around the bingo number, which itself is maintained visible. The indication 11 is stored in the computer 1 and is maintained visible until the proceeding game ends. If it is desired, the indication 11 may possibly consist in blanking the bingo number in the square by entering a new colour to cover the square completely, for instance using black colour.

The computer 1 continues retrieving random integers, either on commmand from the game master via the keyboard 5, or automatically with predetermined time intervals, which time intervals possibly may be regulated by the game master. When an integer emerges to give one complete row in one of the boards 6 on one of the game monitors 3, a bingo result has been achieved. It is now presented on the master monitor 2 which game monitor (and possibly which board) has a bingo result. In this situation several possibilities exist, and all of these are covered by the present invention:

a) The computer 1 communicates no particular signal to the game monitors 3. Reaction by pushing the reaction button 4 is left completely to that game participant who has the bingo board in question, with one complete row. However, this is not the preferred embodiment, presenting higher demands on the power of apprehension and speed of the participant than that which is desirable.

b) The computer 1 blocks the further retrieval of random numbers, in such a manner that there is a pause. The duration of said pause may be predetermined or be determined by the game master by using the keyboard 5. This embodiment gives the participant a better possibility of apprehending the situation, and more time for a reaction.

c) Same as b), but in addition the computer provides for, for instance by flashing or changing colour in a special field (not shown) or all over the picture background in the monitor picture of every game monitor 3, automatic information about the fact that a bingo result now is present. This is the most preferred embodiment, which ensures to a high degree that the game participant with a bingo result does not miss his complete row, but wich still leaves final detection to the participant.

d) A solution which is similar to the preceding one, but in which the automatic information from the computer 1 about a bingo result is only presented on the game monitor of the lucky game participant, and in the same manners as stated in solution c), is also possible. However, this solution approaches the limit where no detection effort is necessary from the part of the participant, except from pushing the reaction button 4.

e) Of course the system offers the possibility that the computer quite simply informs on all game monitors 3 that a bingo result has occurred in for instance game monitor 3F and that the game consequently has come to an end. In this case it is not necessary to push the button. This is the limiting case as mentioned above, and it is usually not of great interest. However, this variant may be of particular interest when the participants in some way or another are strongly handicapped, for instance people who are ill in beds. The game will have more character of a pure lottery than in the other cases, but may still present a great entertainment value. The reaction buttons 4 may also be left out if the system in question is only meant for the use of variant e).

In the above cases a) - d) which are of most interest, and where the reaction button 4 is pushed, the game master can immediately decide from the master monitor 2 if the reaction comes from the right participant.

The computer now "makes up" all accounts by adding the game prize to the balance of the winner, while all the others are held constant. If the game round continues to obtain further complete rows, the game now is carried on by a key-board signal from the game master, and the game continues as previously described.

When the last section of a game round is finished and the last prize has been added to the account of a winner, all boards 6 are blanked out on the game monitors 3.

A new game round is then started by a new "sale of boards 6", for instance when a new game participant enters. Of course, a participant whos balance has fallen to zero, also may want to pay a new charge in order to continue to play. However, time is gained by letting serveral game participants pay for a number of games already from the start, and these participants are immediately ready to choose number of boards in a new game, as long as their balances cover this.

The more specific construction of the computer 1, including the video interfaces, will be obvious to a skilled person in this technical field when the previous statements have been drawn up, and constitutes no part of the present invention.

However, it is to be noted that the game monitors 1 and the master monitor 2 in the preferred and realized prototype version of the invention are colour TV monitors, but in principle one may, just as well as TV cathode ray tubes (CRT) use monitors of liquid crystal (LCD) type, plasma display devices or other suitable display devices.

Furthermore, it is of course possible to program the computer in such a manner that the prize to be gained in a game, is related in a certain way to the total start charge paid in for that game. For instance a certain percentage may be used, say 70%, so that a total fee payment of 500 units (NOK) in one game, results in a prize of 350 units in that game. Figures of interests (percentage, paid charge, and prize) may then be presented on all of the game monitors 3 if it is desired.

PATENT CLAIMS

1. A display system for a data assisted bingo game in which each individual game participant has in front of himself a computer controlled pictorial presentation of a number of bingo square nets (6) containing bingo numbers or symbols (10), which display system comprises a central computer (1), a master monitor (2) connected to said computer (1) and adapted to present selectable game data to the game master, a plurality (N) of game monitors (3) each with an attached reaction button (4) and connected to the computer (1), at least one game monitor (3) being assigned to a game participant after paying a start fee, and a game master keyboard (5) connected to the computer (1) for controlling/selecting which data to be presented on the master monitor (2), characterized in that said computer (1) comprises

a) a first processor for control of the monitor pictures,

b) a random generator for generating random integers for display in a first field (8) of all game monitors (3) in use and of the master monitor (2), as well as

c) a second processor which is adapted to respond to a present random integer from the random generator by imposing on all squares containing that bingo number or symbol (10) which corresponds to said present integer, on all game monitors (3) in use, a particular indication (11) which is maintained constant until the present game comes to end.

2. Display system according to claim 1, characterized in that said computer (1) is adapted to display on each individual game monitor (3) in use, in a second field (7), and according to the choice of the game master by operating said keyboard (5), also on said master monitor (2), the present state of the account of the individual game monitor assigned to a game participant at any time, according to registrated start fee paid in, the number of games/square nets used and possible prizes obtained, a game (1) being automatically registrated and the associated prize being added to the account of the game participant as long as he chooses to continue playing.

3. Display system according to claim 1 or 2, characterized in that said computer (1) is adapted to indicate on the master monitor (2) when and where the first complete row of squares, i.e. a bingo result, occurs, said computer (1) continuously monitoring the total game state of all game monitors (39) in use.

4. Display system according to claim 1, 2 or 3, characterized in that said computer (1) is adapted to block further retrieval of random integers from said random generator when the particular indication (11) has been imposed on a complete row of squares in a square net on one of the monitors (3) in use, i.e. a bingo result has occurred.

5. Display system according to claim 4, characterized in that said computer (1) is adapted for automatic display on every game monitor (3) in use of the fact that a bingo result has occurred, for example by flashing, or by changing colour in a special field or all over the picture background.

6. Disply system according to claim 4, characterized in that said computer (1) is adapted for automatic display on only that game monitor (3) which has a bingo result, that this fact has occurred, for example by flashing, or by changing colour in a special field or all over the picture background.

7. Display system according to one of claims 3-6, characterized in that said computer is adapted to respond to a signal from a pushed reaction button (4) operated by a game participant, by presenting on the master monitor (2) the information this represents in the present phase of the game, for example that the game participant has detected a complete row, i.e. a bingo result, and possibly adapted to maintain all game monitor pictures for a time period which has been predetermined or can be interrupted by the game master, when said reaction button (4) has been pushed, to indicate for all participants and the game master that said game participant has detected a bingo result, whereby the game master is able to check with the master monitor (2) that the right game participant has reacted.

8. Display system according to one of claims 1-7, characterized in that said computer (1) is adapted to particularly indicate squares by darkening or blanking by colouring a complete square in such a manner that the bingo number or symbol (10) disappears.

9. Display system according to one of claims 1-7, characterized in that said computer (1) is adapted to particularly indicate squares by changing the colour of the square to a contrasting colour which is easily visible, for example black, while the bingo number or symbol (10) still is visible in the square, or by entering a special, easily visible further symbol (11) in the square of interest, for example a ring around the bingo number (10).

10. Display system according to one of the previous claims, characterized in that said master monitor (2) and every game monitor (3) are CRT, LCD, plasma or other suitable monitors.

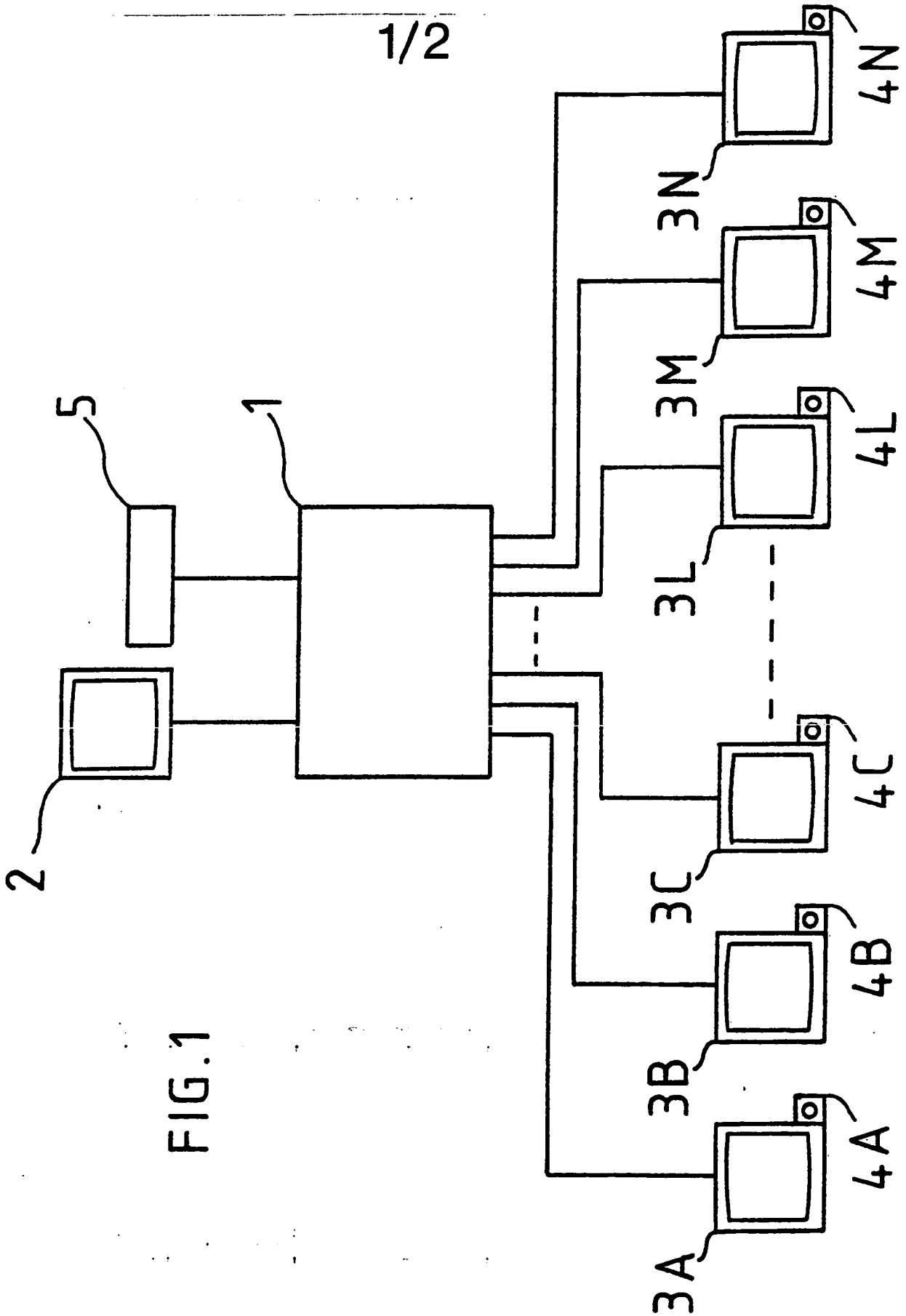
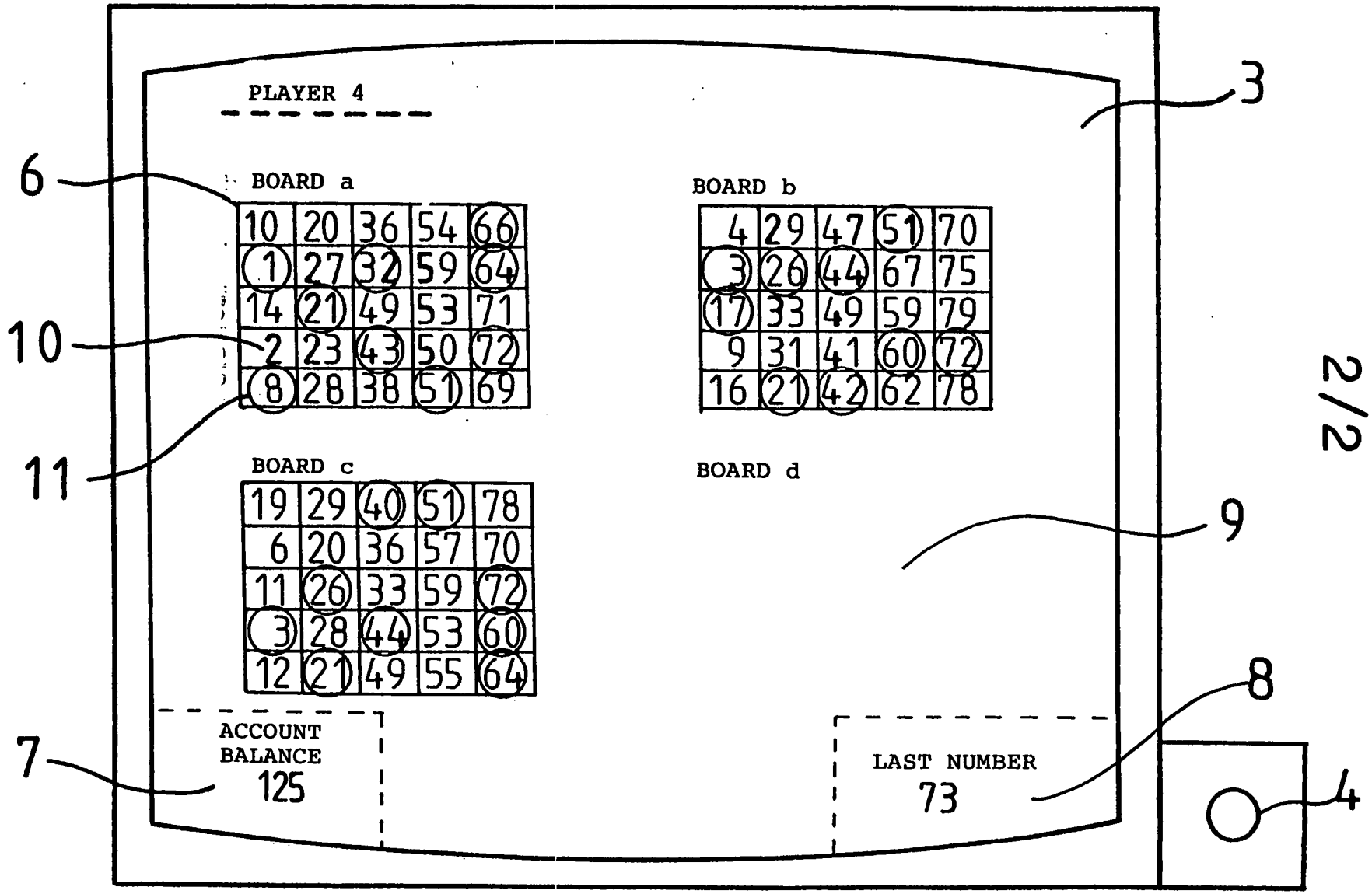


FIG.1

FIG. 2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3
6
BOARD a
10 20 36 54 66
1 27 32 59 64
14 21 49 53 71
2 23 43 50 72
8 28 38 51 69
BOARD b
4 29 47 51 70
3 26 44 67 75
17 33 49 59 79
9 31 41 60 72
16 21 42 62 78
10
11
BOARD c
19 29 40 51 78
6 20 36 57 70
11 26 33 59 72
3 28 44 53 60
12 21 49 55 64
BOARD d
9
8
7
ACCOUNT BALANCE
125
LAST NUMBER
73
4

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INTERNATIONAL SEARCH REPORT

International Application No PCT/N089/00008

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [6]

According to International Patent Classification (IPC) or to both National Classification and IPC 4

A 63 F 3/06, A 63 F 9/22

II. FIELDS SEARCHED

Minimum Documentation Searched [7]

Classification System	Classification Symbols
IPC 4	A 63 F 3/00, /06, 9/00, /22; G 06 F 15/44
US Cl.	273: 130, 135, 237

Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in the Fields Searched [8]

SE, NO, DK, FI classes as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT [9]

Category *	Citation of Document, [11] with indication, where appropriate, of the relevant passages [12]	Relevant to Claim No. [13]
A	GB, A, 2 059 270 (SELECTRO-VISION LTD) 23 April 1981	1-10
A	GB, A, 2 105 996 (HORNVILLE LIMITED) 7 April 1983	1-10
A	GB, A, 2 151 054 (MECCA LEISURE LIMITED) 10 July 1985	1-10
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